

numbers before, and *N. obstipata* has only been taken once before here, on 8th October 1966. On the 21st October the migration had moved on; there were only 8 *gamma* and 2 *martialis*; on the 22nd, 11 *gamma*, 3 *noctuella* and one *martialis*. All the *gamma* were very fresh. As I then had to leave Canna for a month, further investigations were impossible, but such numbers indicate a probable large influx in the country generally.

Some Butterflies in the Massif Central, 1969

By M. R. SHAW

Although two papers dealing with the butterflies of the Massif Central have recently appeared in the Entomologist's Record, it seems appropriate to supplement these with the rather different experiences that I have had in this exceptionally late summer. By and large I covered the same ground as did Mr. R. F. Bretherton in 1966, and at roughly the same time of year.

Accompanied by my parents, who are fortunately resourceful enough to appreciate the remote and beautiful countryside that goes with collecting butterflies without themselves being collectors, I left England on June 25th, making straight for the deciduous woodland of the Loire valley. Here I hoped to find *Araschnia levana* L., and eventually I found a nest of young larvae together with some more nomadic final instar larvae near the Forêt de Loches, which produced a fine series of f. *prorsa* L. with one of the females approaching f. *porima* Ochs. I was also pleased to take *Mellicta athalia athalia* Rott. and some *Glaucopsyche alexis* Poda. An unexpected capture was *Brenthis ino* Rott., seen in one place only and flying very much faster than I have noted in previous experiences in the Alpes-Maritimes and the Basses-Alpes. I spent a lot of time looking on sallow for the early stages of *Apatura* species without success, and neither could I find *Hemearis lucina* L. on primrose. I was also hoping to take *Carterocephalus palaemon* Pall., but all I could find was one worn male. A few *Limenitis camilla* L., one worn *L. anonyma* Lewin and a pair of *Maculinea arion* L. completed the interesting species I found in the area.

We then pushed on to Chambon in the Monts-Dore, arriving late in the afternoon of June 28th. Almost immediately I found a colony of *Parnassius mnemosyne* L. in the woods stretching above the village towards the Col de la Croix Morand. The males were very fresh, with the females only just starting to emerge, and I easily collected a short series by looking among the grass heads for specimens at rest with their wings extended as this habit makes them very conspicuous. The next day we went up to the Vallée de Chaudefour where I took several *Lycæna helle* Schiff. among *Polygonum bistorta* on very wet ground; the condition of both sexes ranged from very fresh to incredibly tatty. The females seemed easiest to find by watching the *Polygonum* heads but the males apparently prefer to rest on green foliage. Here I also found several very fresh *C. palaemon*, the imagines feeding exclusively on *Geranium*. A short search among the same plant soon produced two only of *Eumedonia chiron* Rott., both very fresh. I have always found

this species to be exceedingly local, and often on small sparse patches of *Geranium* in preference to more lush and extensive growth a few yards away. A single final instar larva of *B. ino* was found on *Spiraea*, and other butterflies seen in large numbers included *Erebia oeme* Hübn., *E. epiphron* Knoch., *E. meolans* de Pr., *Clossiana selene* Schiff., *C. euphrosyne* L. and *Anthocaris cardamines* L. which was still fresh. A single very worn *Nymphalis antiopa* L. was struggling around some willow scrub, which prompted an unsuccessful search for young larvae. Lower down I was pleased to see some fresh *P. mnemosyne* in a very localised patch which I had missed on the way up. A species which was seemingly absent early in the day was *Erynnis tages* L.; despite a full day's sunshine I saw none until about 3.00 p.m. when plenty appeared.

On June 30th we worked the ground up to the Col de la Croix Morand from Chambon, keeping to the wooded area since higher up it was cold and windy and in spite of full sunshine nothing much was on the wing. In the woods I found a few rather worn *H. lucina* flying with fresh *E. oeme*, *E. epiphron*, *E. meolans*, *P. mnemosyne*, *Cyaniris semiargus* Rott., *E. chiron*, *Melitaea diamina* Lang, *Mellicta parthenoides* Kef., very variable *Euphydryas aurinia* Rott. and worn singles of *Callophrys rubi* L. and *C. palaemon*. In the afternoon we again visited the Vallée de Chaudefour, where I confirmed my suspicions of the previous day that both *C. palaemon* and *L. helle* prefer to fly in the fresh morning sunshine rather than in the more oppressive heat later on. I saw only one of the former and two of the latter. The next day, July 1st, was our last day in this area, and we worked some of the ground between Le Mont Dore and the Puy de Sancy. In the town itself I saw what was probably *Apatura ilia* Schiff. flying quite low in a garden, but it kept well out of reach. Then at the Grande Cascade just outside and above the town I was pleased to find a single worn example of *L. helle*. The ground from here to the Vallée de Chaudefour, about two miles away, is mostly high and frequently marshy, and it seems probable that *L. helle* has a good solid stronghold over this rather inaccessible terrain. At the Grande Cascade I also took a single fresh male of *Palaeochrysophanus hippothè* L., but by now the fine weather was breaking and when we moved higher on to the Puy de Sancy all we saw was *E. epiphron*, though in considerable numbers.

July 2nd saw us driving southwards to Le Lioran in the Mts. de Cantal, where we arrived an hour before a thunderstorm. The meadow where Mr. Bretherton found *Erebia sudetica* Stgr. in 1966 has since taken a terrible hammering from the winter sports industry, and little likely-looking ground remains unspoiled. Whether or not *E. sudetica* still exists on that particular patch of ground is difficult to say; I found no trace, but I was probably too early and the weather was not helpful. The promised storm duly broke and we left, heading south-east for Meyrueis in the gorge of the Jonte. The weather steadily improved and in the afternoon I saw the first *Aporia crataegi* L. of the holiday.

We spent the night on the way and arrived in Meyrueis on July 3rd, having spent most of the day collecting in the Causse de Sauveterre where I caught a single fresh female *Agapetes russiae* Esp., and *Melitaea cinxia* L., *M. phoebe* Schiff., *Mellicta athalia celadussa* Frhst., *M. dejone* G.-H. and *M. parthenoides* in varying numbers. Here I also saw a single

worn *Pararge aegeria aegeria* L. flying among some stunted juniper bushes, which hardly provided the shady habitat one normally associates with this species. (I later saw it again in similar surroundings on the summit slopes of Mt. Aigoual; this time there were at least three). A few Lycaenids were also flying, mainly *C. semiargus* and *Cupido minimus* Fuessl., with a few worn *Lysandra escheri* Hübn. and *Polyommatus icarus* Rott.

On July 4th we collected from Meyrueis towards Lanuéjols, stopping first at the top edge of the Forêt de Roquedols. On the grassy slopes I took several *M. arion* together with a few of the more common "blues," as well as larger numbers of all the *Mellicta* and *Melitaea* species I had seen earlier in the Causse de Sauveterre. *A. crataegi* was also very abundant, and a little further on there was a small and very localised colony of *Maculinea rebeli* Hirschke. Here there was far less *Gentiana lutea* than in many of the places both nearby and elsewhere where I had failed to find this species. Then further on into the Causse Noir, south of Lanuéjols, we found a small fairly bare shallow valley at 850 m., with occasional stunted blackthorn scrub among the sparse grass, and here *A. russiae* was in profusion. Every specimen I saw was in perfect condition and a brief count of a sample of 25 showed males and females to be in roughly equal numbers. Previously, on the Mt. de Lure at 1600 m. on 26.vii.1968, I had found the species equally abundant, but in much more varied condition and with males apparently outnumbering females by at least ten to one. Also on the Mt. de Lure I had the impression that the species flies much faster and settles less frequently. From a short distance the sparsely grassy areas, which it seems to inhabit in preference to more genuinely bare ground in both localities, looked to be fairly thickly covered, but this illusion is a result of the height of the grass rather than its density. In the Lanuéjols locality there were also some streaks of rather greener grass, and I was delighted to find *Brenthis hecate* Schiff. quite common in, but local to, such areas. All the specimens I saw were very fresh males. Little else was flying here though I saw odd specimens of *L. escheri*, *Aricia montensis* Vty., *Strymon ilicis* Esp., *A. crataegi*, *M. athalia celadusa*, *Coenonympha pamphilus* L., *C. arcania* L., and *Adopoea flava* Brunnich.

The next day, July 5th, we went westwards across the Causse on the south side of the Jonte to Peyreleau. In the wooded area just above the village I caught quite an interesting selection, among them *Pyronia bathseba* Fabr. (fresh and plentiful), *Hipparchia alcyone* D. & S. (3 only, very fresh), *C. pamphilus*, *C. arcania*, *C. dorus* Esp., *Brenthis daphne* Schiff. (about 6 seen), *Argynnis paphia* L. (one fresh male only), *Heodes alciphron gordius* Sulzer (2 only, both worn), *Strymon spini* Schiff. (at least one among hundreds of *S. ilicis*) and large numbers of the commoner species. Here I also saw three specimens of *Agaptes galathea* L. (2 males and 1 female f. *leucomelas* Esp.), the first I had seen since leaving the Loire valley on June 28th. It was especially surprising to find *A. galathea* so late at only about 700 m. when *A. russiae* looked to be about on time; most collectors seem to have to work hard to pick out odd examples of *A. russiae* from swarms of *A. galathea*, as indeed had been my own previous experience on the Mt. de Lure, but this time I was able to look for it without such complications. I saw no more of *A. galathea* until

we were in much more parched and lower areas towards Avignon on July 15th, where it was well past its best. On the way back to Meyrueis we found a couple of rather localised but abundant colonies of *Coenonympha iphis* Schiff. flying with or very near *C. pamphilus*, *C. arcania* and *C. dorus*. At the same time I picked up the only two specimens of *Lysandra dorylas* Schiff. that I saw on the holiday, and several of the commoner species were again plentiful.

A thunderstorm on July 16th delayed our planned trip to Mt. Aigoual until after lunch, but even then the weather was mostly overcast and not warm. The summit was almost completely profitless, but lower down a few butterflies were around, notably *E. epiphron* and *E. meolans*, but obviously I had not seen the locality at its best, and there was no chance to make another visit.

We then moved north-eastward to La Bastide, which was to be our base for the remainder of our stay, where I was especially keen to take *Boloria sifanica* Gr.-Gr. and *Erebia ottomana* H.-S. The weather was unspeakably vile for six days, with strong and very cold north-east winds often bringing mist and driving drizzle, and there was little to do except explore as much ground as possible in case the weather improved. I spent a couple of days under six layers of clothing on the wild, high granite moorland around Les Salesses and to the north-east, looking for *Oxycooccus palustris* among the many bogs. Though I found several small areas in which *Oxycooccus* was growing, none looked to be extensive enough to support a colony of *B. sifanica* except the one just above Les Salesses mentioned by Mr. Bretherton. I also spent a bit of time hopefully sweeping the vegetation on the few sheltered corners of the Col de Meyrand, but needless to say I saw nothing of *E. ottomana*. I could not even find larvae of *N. antiopa* on the willow trees around La Bastide itself, and apart from a single female *Heodes tityrus* Poda the only bright event in this disappointing weather was a chance meeting with M. Puech, a local collector who promised to show us some of the good areas on the Col de Meyrand when and if the weather improved. At last, on July 13th, we had a calm and sunny day and were able to set out. M. Puech was as good as his word and on the northern slopes of the Col at 1100-1200 m. we took several interesting species, among them *P. mnemosyne* (some still quite fresh), *A. crataegi*, *A. cardamines* (mostly still fresh), one each of *E. chiron*, *G. alexis* and *Lycaena phloeas* L., *P. hippothoë* L. (males much smaller, darker and less shot with purple than the single male taken in the Monts-Dore, but the females were more or less typical showing no superficial tendency towards ssp. *eurybia* Ochs.), *Issoria lathonia* L., *M. diamina* Lang, *Clossiana titania* Hübn., *B. ino*, *Erebia euryale* Esp. (quite common and very fresh), *E. meolans* and *E. ottomana* (males very fresh and plentiful, only one female taken. This species apparently had not yet emerged at levels above about 1200 m., for we could find none at the top or for some way down on the north side of the pass). Surprising absences from the Col de Meyrand apparently included *E. epiphron* and *Maniola jurtina* L.

The next day, July 14th, was again perfect and we set out for Les Salesses, again with M. Puech, where we soon found *B. sifanica* on the bog, though not very commonly. All the specimens I saw were males and in very fresh condition, and they were all flying low over the bog

or at rest on the marsh foliage. I presume they must leave the bog (where there were very few flowers) to feed, but I saw no sign of this. I also caught the following species in or around the marsh: *E. meolans*, *E. ottomana* (one only), *C. pamphilus* (very common), *C. titania* (common, but I saw no females though several males were worn), *C. selene*, *C. euphrosyne*, *E. aurinia* (abundant but very worn), *M. diamina* (rather few, very fresh), *M. athalia celadussa* (one only), *M. parthenoides* (few), *Mesoacidalia charlotta* Haw. (one only), *C. semiargus*, *M. arion* (few) and the odd *Pieris rapae* L. Later in the day, M. Puech showed me several places where he had taken *Parnassius apollo* L., but as we expected, it was not yet around and all we caught was a single fresh *Papilio machaon* L., the only one I saw this year. Back at La Bastide, I took a single very fresh *Heodes virgaureae* L., also the only example I saw.

The following day was our deadline for getting to Avignon where we were to put the car on an overnight train for Boulogne, and the only collecting I did was in a sweltering sun-trap in the low baked-up limestone hills just on the Uzès side of Alès, where we made a brief stop for lunch. Here I took a worn female *B. hecate*, a worn female *P. bathseba*, a fresh male *Thecla quercus* L. and some of the large Satyrids which were fully out. I also saw plenty of *Colias crocea* Fourc. and *C. hyale* L. (or perhaps *australis* Vty.) and large numbers of *A. galathea*, almost half the females of which seemed to be f. *leucomelas*. From here it was all too short a drive in the brilliant sunshine to Avignon, and the end of the holiday.

In all I had seen about 90 species, but in conclusion it seems worth mentioning that during the whole stay in the Massif Central I was struck by the extreme paucity of the Lycaenids. Though I saw six out of the seven "coppers" native to France, among the commoner members of sub-family Plebejinae things were different. I saw only one specimen each of *Plebejus argus* L. and *Lysandra bellargus* Rott., two of *L. dorylas* Schiff., none of *L. coridon* Poda and few of *L. escheri* Hübn., *Polymmatius icarus* Rott. and *Cupido minimus* Fuessl. All the above I regard as more or less common species over most of the south of France at that time of a normal year, and perhaps the comparative lack of this group expresses the lateness of the year as well as anything.

REFERENCES

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NORTHAMPTONSHIRE MIGRANTS.—On 4th September 1969 I was pleased to find a specimen of *Herse convolvuli* L. at my mercury vapour light at Maidwell, and on 14th October 1969, two pupae, of *Acherontia atropos* L. were turned up in a potato field at Finedon and brought to me. One was damaged and died, the other has not yet emerged. Both these localities are in Northamptonshire.—P. J. GENT, 3 Irthlingborough Road, Wellingborough, Northants.